

## SEQUENCE LISTING

<110> National Research Council of Canada

<120> Raftin Gene, Product and Use thereof

<130> Pat 753W-90

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<150> US60/400,836

<151> 2002-08-02

<160> 43

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gggccgcac gtaccatgcg atcgacacgc tcacatcgag agctttctg ttgggtgtcg	1980
cgtcaatga aacaccttcc cgtcaagccg acgacgccta taagtacctc gcctgatcgc	2040
attatcactc ccaagtacta caacctctcg acctctcacc tagcgcacat ccatg	2095

<210> 35

<211> 246

<212> DNA

<213> *Triticum aestivum*

<400> 35

atggcgcgt tcctcgtcgc cctcctcgct gccaccctgg tcgcgggtca ggctggaggg	60
cagctgggcc acgcagcgcc ggcgacggcg gaggtgttct ggccgcgcgt gctgccgcac	120
tcgccattgc cgcacgcgt tctccgcctc ctcaaacaac ctgcagcagg tttgaactg	180
cacacagaag ccaccagctt cgtaagagac cccgaggaca ggcccccctt cgactaccgt	240
gattac	246

<210> 36

<211> 441

<212> DNA

<213> *Triticum aestivum*

<400> 36

atggcgcgt tcctcgtcgc cctcctcgct gccaccctgg tcgcggtaat ggccgaagaa	60
gccactgagc aacgcctgca ttttctttat tttggcaaac tggtgtaac ggccaaact	120
ggcgcttgcg ttacgtctca gggtcaggct ggagggcagc tggccacgc agcgcggcg	180
acggcggagg tttctggcg cgcgtgtc cgcactcgc cattccccga cgccgttctc	240
cgcctcctca aacaacctgc agcaggctcg tcttgcattgt tcctcgtcgc cttccgttaa	300
ctgtttttt ctctcgagtt tgattgatca ccaaacacaa aaatgcattc acgcgtacgc	360
gttaggtgtt aactgcacac agaagccacc agcttcgtaa gagaccccgaa ggacaggccc	420

cccttcgact accgtgatta c

441

<210> 37  
 <211> 1301  
 <212> DNA  
 <213> Oryza sativa

&lt;400&gt; 37

gtcgcagtcg tctccggcga gaaatcggt gcgccccgtc tctctctctc tcgaacgctt	60
ccatggcgcg cttccctcctc ctccctcgtcg ccgtcgccgc tgccgcgcgc gtgcgttcgc	120
tggcgacgc ggcgcgcgtcg acggccgagg tggctggcg cgccgtgctg ccggaatccc	180
cgttgcggga cgccttcctc cgccttcctcc gcctgacac cagcttcgtc gtcggcaaaag	240
cggaggcggc cggtggcgcg ggcgggacccg gattcccctt cgattacact gactacaggg	300
gatctgattc tccgacgacg gcgagtggtt tggacctcgcc cggtgacttc ggcgagccgg	360
cgccttcgg ctacgactac agtgcacagg gcgaaggcgg cggcggcggc gccgcccggc	420
ccgcgggaga gcaggttctt gccgtcgacg cgggcttcaa ctacgacaaa tacgtcggcg	480
cgaggaagct ccgcggcggc agcagcacccg cggcgggaga gaatgatgac gagccttcg	540
ggtacgacta caaggcgccg agcagcggca gggcaccgc ggcgtcgacg acggcgcgag	600
gcgtcgac gggcgccacg acgacggtgt tcttccacga ggaggcggtg cggtcgccg	660
agaggctccc gttctacttc cggcggcga cgacgtcgcc gctgggcttc ctgcccgcgc	720
gcgtcgccga ctccatcccg ttcacggcgg cggcgtcgcc gcgcgttcctc ggcgtgttgc	780
gcgtcgccgc ggacaccgc gaggcggccg gcatgaggga gacgctgcgc acgtgcgagt	840
ggccgaccct cgccggcgag tccaagttct gcgcacgtc gctggaggcc ctggtgagg	900
gcccgcgcgc ggcgtcgccg acacgcgaca tcgcccgcgt ggcgtcgacg ctgccccgc	960
gcccgcgcgc gctgcaggcg tacgcccgtcc gcccgtgtc cccgcgtcgag ggcgcggcgt	1020
tcgtggcgtg ccacgaccag gcgtaccgt acaccgtgt a cgcgtccac accaccggcc	1080
cggccagagc ttacatggtg gagatggaaag ggcacggcgg cggcgatggc ggcgaggcgg	1140
tgaccgtggc caccgtgtgc cacaccaaca cgtcgccgtg gaaccoggag cacgtctgt	1200
tcaagctcct cggcaccaag cccggcggtc cggcggtgtc ccacctcatg ccgtacgggc	1260
acatcgtctg ggccaagaac gtgaagagct cgacggcgta g	1301

<210> 38  
 <211> 1479  
 <212> DNA  
 <213> Oryza sativa

<400> 38

gtcgcagtcg tctccggcga gaaatcggtc ggcggccgtc tctctcttc tcgaacgctt	60
ccatggcgcg cttccctcctc ctccctcgatcg ccgtcgccgc tgccgcccgtc gtgcgttcgg	120
tacactcatg atgcccgtac tcaagtcgagc catgcaccgt tgccacccgtt tactaaccgt	180
cgctcgatcg accgacgatg tgggttcttc agcagctggg cgacgcggcg ccgtcgacgg	240
ccgaggtgtt ctggcgccgc gtgctgcggg aatccccgtt gcccggacgccc ttccctccggc	300
tcctccggccc tggtcgggtgt cttcccttc tcctccggcc gcccggccgc gccattactc	360
tcctcgaggt ttgatttgtt tggacgtt gcagacacca gcttcgtcggt cgccaaagcg	420
gaggcggccg gtggcgccgc gcggaccggc ttcccttcg attacactga ctacaggggc	480
tctgatttctc cgacgacggc gagttggttt gacctcgccg gtgacttcgg cgagccggcg	540
ccttcggct acgactacag tgcacagggc gaaggcggcg gcggccggcc cggccggcc	600
gcgggagagc aggttcttgc cgtcgacgatcg ggcttcaact acgacaaata cgctggcgcg	660
aggaagctcc gcggcgccag cagcaccggc ggcggagaga atgatgacga gccttcggg	720
tacgactaca aggccggcag cagcggcagc ggcaccggc cgtcgacgac ggcgcgaggc	780
gtcggcacgg gcgcacgac gacgggtttc ttccacgagg aggcgggtcg cgctggcgag	840
aggctccgt tctacttccc ggcggcgacg acgtcgccgc tgggttccct gcccggccgc	900
gtcgcggact ccatcccggtt cacggcgccgc gcgcgtccgg ccgtccctcgcc gctgttcggc	960
gtcgcggccgg acaccggcga ggcggccggc atgagggaga cgctgcgcac gtgcgagtg	1020
ccgaccctcg ccggcgagtc caagttctgc gccacgtcgcc tggaggccct ggtggagggc	1080
gccatggcgccgc tgcaaggcgta cccgtccgc gccgtgtcc ccgtcgaggcg ccggccgttc	1140
gtggcggtgcc acgaccaggc gtacccgtac accgtgtacc gctgccacac caccggcccg	1200
gccagagctt acatggtgga gatggaaaggc gacggcgccgc gcgcgtggcg cgaggcggtg	1260
accgtggcca ccgtgtgcca caccaacacg tcgcggtgga acccgagca cgctctcggttc	1320
aagctccctcg gcaccaagcc cggcggtcg ccgggtgtgcc acctcatgccc gtacgggcac	1380
atcgatcgatggg ccaagaacgt gaagagctcg acggcgtag	1440
	1479

<210> 39  
<211> 1461  
<212> DNA  
<213> *Oryza sativa*

<400> 39

<210> 40

<211> 389  
<212> PRT  
<213> Triticum aestivum

<400> 40

Met Ala Arg Phe Leu Val Ala Leu Leu Ala Thr Thr Leu Val Ala Val  
1 5 10 15

Gln Ala Gly Gly Gln Leu Gly His Ala Ala Pro Ala Thr Ala Glu Val  
20 25 30

Phe Trp Arg Ala Val Leu Pro His Ser Pro Leu Pro Asp Ala Val Leu  
35 40 45

Arg Leu Leu Lys Gln Pro Ala Ala Gly Val Glu Leu Leu Thr Glu Ala  
50 55 60

Thr Ser Phe Val Arg Asp Ala Glu Asp Arg Pro Pro Phe Asp Tyr Arg  
65 70 75 80

Asp Tyr Ser Arg Ser Pro Pro Asp Asp Glu Pro Ser Lys Ser Thr Gly  
85 90 95

Ala Ala Ser Gly Ala Arg Asp Phe Asp Tyr Asp Asp Tyr Ser Gly Gly  
100 105 110

Asp Lys Leu Arg Gly Ala Ala Ser Gly Ala Arg Asp Phe Asp Tyr Asp  
115 120 125

Asp Tyr Ser Gly Ala Asp Lys Leu Arg Gly Ala Thr Asp Glu Tyr Lys  
130 135 140

Ala Pro Ser Ser Ser Leu Ala Gly Asn Gly Ala Ser Met Ala Arg Gly  
145 150 155 160

Gly Lys Ala Glu Thr Thr Val Phe Phe His Glu Glu Ala Val Arg  
165 170 175

Val Gly Lys Arg Leu Pro Phe Arg Phe Pro Pro Ala Thr Pro Ala Ala  
180 185 190

Leu Gly Phe Leu Pro Arg Gln Val Ala Asp Ser Val Pro Phe Thr Thr  
195 200 205

Ala Ala Leu Pro Gly Val Leu Ala Thr Phe Gly Val Ala Ser Asp Ser

210

215

220

Ala Thr Val Ala Ser Met Glu Ala Thr Leu Arg Ala Cys Glu Ser Pro  
225 230 235 240

Thr Ile Ala Gly Glu Ser Lys Phe Cys Ala Thr Ser Leu Glu Ala Leu  
245 250 255

Val Glu Arg Ala Met Glu Val Leu Gly Thr Arg Asp Ile Arg Pro Val  
260 265 270

Thr Ser Thr Leu Pro Arg Ala Gly Ala Pro Leu Gln Thr Tyr Thr Val  
275 280 285

Arg Ser Val Arg Pro Val Glu Gly Gly Pro Val Phe Val Ala Cys His  
290 295 300

Asp Glu Ala Tyr Pro Tyr Thr Val Tyr Arg Cys His Thr Thr Gly Pro  
305 310 315 320

Ser Arg Ala Tyr Met Val Asp Met Glu Gly Ala Arg Gly Gly Asp Ala  
325 330 335

Val Thr Ile Ala Thr Val Cys His Thr Asp Thr Ser Leu Trp Asn Pro  
340 345 350

Glu His Val Ser Phe Lys Leu Leu Gly Thr Lys Pro Gly Gly Thr Pro  
355 360 365

Val Cys His Leu Met Pro Tyr Gly His Ile Ile Trp Ala Lys Asn Val  
370 375 380

Asn Arg Ser Pro Ala  
385

<210> 41  
<211> 362  
<212> PRT  
<213> Triticum aestivum

<400> 41

Met Ala Arg Phe Leu Val Ala Leu Leu Ala Ala Thr Leu Val Ala Val  
1 5 10 15

Gln Ala Gly Gly Gln Leu Gly His Ala Ala Pro Ala Thr Gly Glu Val

20

25

30

Phe Trp Arg Ala Val Leu Pro His Ser Pro Leu Pro Asp Ala Val Leu  
35 40 45

Arg Leu Leu Lys Gln Pro Ala Ala Glu Ser Thr Ser Phe Val Arg Asp  
50 55 60

Pro Glu Asp Arg Pro Pro Phe Asp Tyr Arg Asp Tyr Ser Arg Ser Ser  
65 70 75 80

Ser Asp Asp Glu Pro Ser Lys Ser Thr Val Ala Ala Ser Gly Ala Gly  
85 90 95

Gly Phe Asp Tyr Asp Asn Tyr Ser Gly Ala Asp Glu Arg Arg Gly Ala  
100 105 110

Thr Asp Glu Tyr Lys Ala Pro Ser Ser Ser Leu Ala Gly Ser Gly Ala  
115 120 125

Tyr Met Ala Arg Gly Gly Lys Ala Glu Thr Thr Thr Val Phe Phe His  
130 135 140

Glu Glu Ala Val Arg Val Gly Arg Arg Leu Pro Phe His Phe Pro Pro  
145 150 155 160

Ala Thr Pro Ala Ala Leu Gly Phe Leu Pro Arg Gln Val Ala Asp Ser  
165 170 175

Val Pro Phe Thr Thr Ala Ala Leu Pro Gly Ile Leu Ala Thr Phe Gly  
180 185 190

Ile Ala Ser Asp Ser Thr Thr Val Pro Ser Met Glu Ala Thr Leu Arg  
195 200 205

Ala Cys Glu Ser Pro Thr Ile Ala Gly Glu Ser Lys Phe Cys Ala Thr  
210 215 220

Ser Leu Glu Ala Leu Val Glu Arg Ala Met Gly Val Leu Gly Thr Arg  
225 230 235 240

Asp Ile Arg Pro Val Thr Ser Thr Leu Pro Arg Ala Gly Ala Pro Leu  
245 250 255

Gln Thr Tyr Thr Val Val Ala Val Gln Pro Val Glu Gly Gly Pro Val  
260 265 270

Phe Val Ala Cys His Asp Glu Ala Tyr Pro Tyr Thr Val Tyr Arg Cys  
275 280 285

His Thr Thr Gly Pro Ser Arg Ala Tyr Thr Val Asp Met Glu Gly Ala  
290 295 300

Arg Gly Ala Asp Ala Val Thr Ile Ala Ala Val Cys His Thr Asp Thr  
305 310 315 320

Ser Leu Trp Asn Pro Glu His Val Ser Phe Lys Leu Leu Gly Thr Lys  
325 330 335

Pro Gly Gly Thr Pro Val Cys His Leu Met Pro Tyr Gly His Ile Ile  
340 345 350

Trp Ala Lys Asn Val Lys Arg Ser Pro Ala  
355 360

<210> 42

<211> 82

<212> PRT

<213> Triticum aestivum

<400> 42

Met Ala Arg Phe Leu Val Ala Leu Ala Ala Thr Leu Val Ala Val  
1 5 10 15

Gln Ala Gly Gly Gln Leu Gly His Ala Ala Pro Ala Thr Ala Glu Val  
20 25 30

Phe Trp Arg Ala Val Leu Pro His Ser Pro Leu Pro Asp Ala Val Leu  
35 40 45

Arg Leu Leu Lys Gln Pro Ala Ala Gly Val Glu Leu His Thr Glu Ala  
50 55 60

Thr Ser Phe Val Arg Asp Pro Glu Asp Arg Pro Pro Phe Asp Tyr Arg  
65 70 75 80

Asp Tyr

<210> 43  
<211> 412  
<212> PRT  
<213> Oryza sativa  
  
<400> 43

Met Ala Arg Phe Leu Leu Leu Leu Val Ala Val Ala Ala Ala Ala Ala  
1 5 10 15

Val Leu Ser Leu Gly Asp Ala Ala Pro Ser Thr Ala Glu Val Phe Trp  
20 25 30

Arg Ala Val Leu Pro Glu Ser Pro Leu Pro Asp Ala Phe Leu Arg Leu  
35 40 45

Leu Arg Pro Asp Thr Ser Phe Val Val Gly Lys Ala Glu Ala Ala Gly  
50 55 60

Gly Ala Ala Arg Thr Gly Phe Pro Phe Asp Tyr Thr Asp Tyr Arg Gly  
65 70 75 80

Ser Asp Ser Pro Thr Thr Ala Ser Gly Leu Asp Leu Ala Gly Asp Phe  
85 90 95

Gly Glu Pro Ala Pro Phe Gly Tyr Asp Tyr Ser Ala Gln Gly Glu Gly  
100 105 110

Gly Gly Gly Ala Ala Ala Ala Gly Glu Gln Val Leu Ala Val  
115 120 125

Asp Ala Gly Phe Asn Tyr Asp Lys Tyr Val Gly Ala Arg Lys Leu Arg  
130 135 140

Gly Gly Ser Ser Thr Ala Gly Gly Glu Asn Asp Asp Glu Pro Phe Gly  
145 150 155 160

Tyr Asp Tyr Lys Ala Pro Ser Ser Gly Ser Gly Thr Ala Ala Ser Thr  
165 170 175

Thr Ala Arg Gly Val Gly Thr Gly Ala Thr Thr Val Phe Phe His  
180 185 190

Glu Glu Ala Val Arg Val Gly Glu Arg Leu Pro Phe Tyr Phe Pro Ala  
195 200 205

Ala Thr Thr Ser Ala Leu Gly Phe Leu Pro Arg Arg Val Ala Asp Ser  
210 215 220

Ile Pro Phe Thr Ala Ala Ala Leu Pro Ala Val Leu Ala Leu Phe Gly  
225 230 235 240

Val Ala Pro Asp Thr Ala Glu Ala Ala Gly Met Arg Glu Thr Leu Arg  
245 250 255

Thr Cys Glu Trp Pro Thr Leu Ala Gly Glu Ser Lys Phe Cys Ala Thr  
260 265 270

Ser Leu Glu Ala Leu Val Glu Gly Ala Met Ala Ala Leu Gly Thr Arg  
275 280 285

Asp Ile Ala Ala Leu Ala Ser Thr Leu Pro Arg Gly Gly Ala Pro Leu  
290 295 300

Gln Ala Tyr Ala Val Arg Ala Val Leu Pro Val Glu Gly Ala Gly Phe  
305 310 315 320

Val Ala Cys His Asp Gln Ala Tyr Pro Tyr Thr Val Tyr Arg Cys His  
325 330 335

Thr Thr Gly Pro Ala Arg Ala Tyr Met Val Glu Met Glu Gly Asp Gly  
340 345 350

Gly Gly Asp Gly Gly Glu Ala Val Thr Val Ala Thr Val Cys His Thr  
355 360 365

Asn Thr Ser Arg Trp Asn Pro Glu His Val Ser Phe Lys Leu Leu Gly  
370 375 380

Thr Lys Pro Gly Gly Ser Pro Val Cys His Leu Met Pro Tyr Gly His  
385 390 395 400

Ile Val Trp Ala Lys Asn Val Lys Ser Ser Thr Ala  
405 410